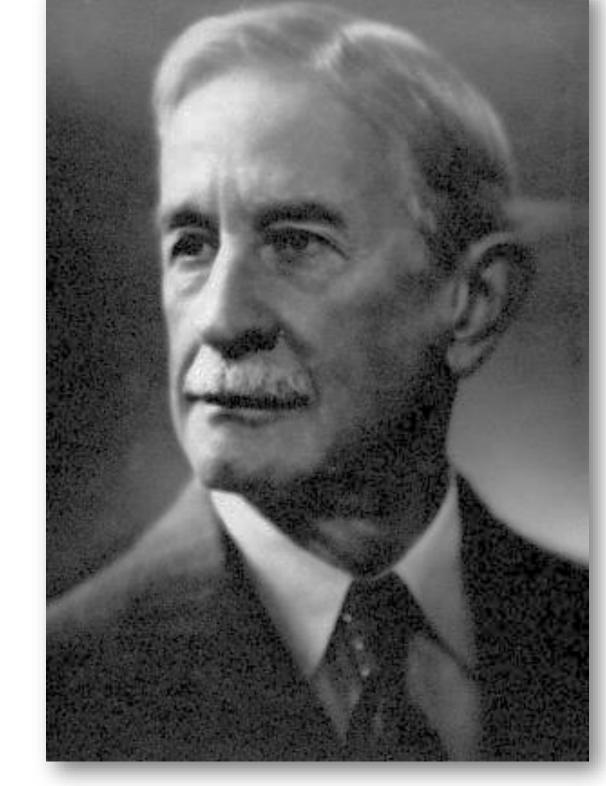
Coker's Lactarius taxa: 100 years later

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Dr. William Chambers Coker described over 100 new species of fungi during his career at the University of North Carolina at Chapel Hill. Included in these were seven species and two forms in the genus *Lactarius* published by Coker in *The Lactarias of North Carolina* in 1918. Coker's seven *Lactarius* species have stood the test of time, six at the species level, now spread across three genera (*Lactarius*, *Lactifluus*, and *Multifurca*) and one at varietal rank. As yet, his two forms have not been deemed suitable for taxonomic recognition.

The Lactarius sensu lato collection of the University of North Carolina Herbarium (NCU) is the third largest in the southeastern United States, holding 456 preserved specimens representing 76 species. Of these specimens, 42 are type collections.



Dr. William Chambers Coker

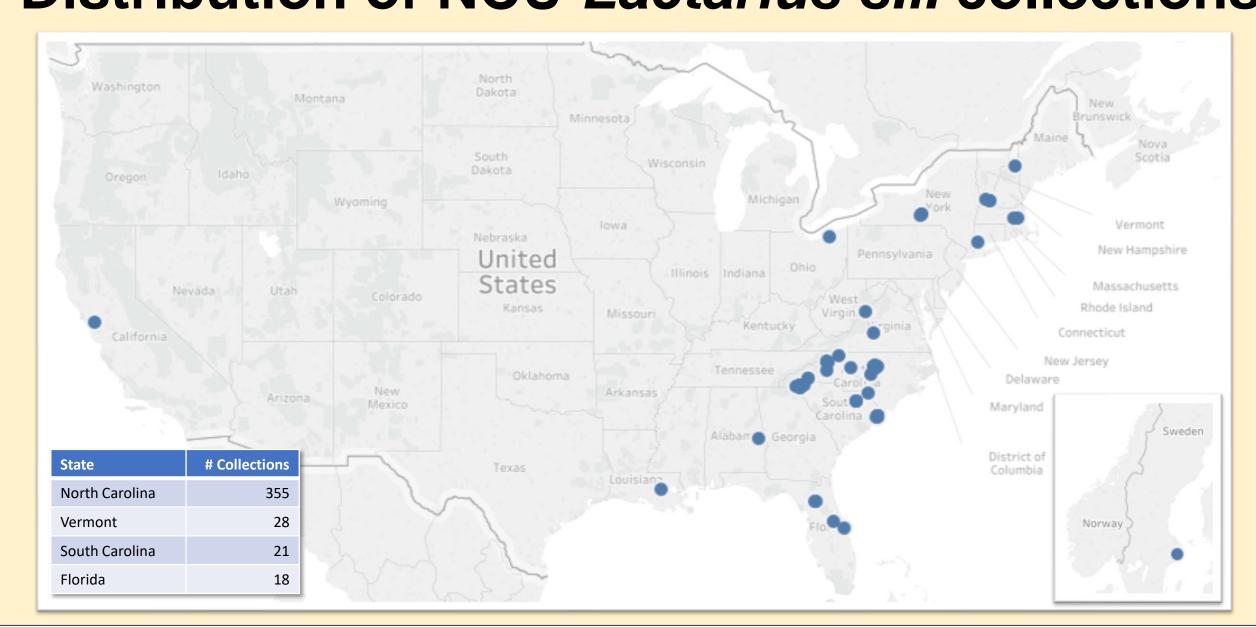
24 Oct 1872 – 26 Jun 1953

Photograph source: herbarium.unc.edu

Six of seven Coker species stand; a seventh reduced to varietal rank.

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Coker's Taxon (1918)	Fate of Taxon	Current Name (2019)	Range	Comments
Lactarius allardii	Species stands, transferred to different genus	Lactifluus allardii (Coker) De Crop	NS to FL, TX	Commonly collected. Patronym honors Harry Ardell Allard (1880-1963), Coker's first botany assistant, later known for his research on the tobacco mosaic virus and photoperiodism in vascular plants.
Lactarius coleopteris	Species stands	Lactarius coleopteris Coker	Durham and Orange Cos., NC	Known only from Coker's and H.R. Totten's collections.
Lactarius curtisii	Species reduced to varietal rank	Peck var. curtisii (Coker) Hesler & A.H. Sm.	NC to FL, TX	Occasionally collected. Patronym honors Rev. Moses Ashley Curtis (1808-1872), whom Coker believed had collected this taxon. Hesler & Smith identified Curtis' collection as <i>L. salmoneus</i> var. <i>salmoneus</i> (1).
Lactarius furcatus	Species stands, transferred to different genus	Multifurca furcata (Coker) Buyck & V. Hofstetter	WV, NC, MS, TX, AR	Occasionally collected. Recent molecular studies suggest specimens collected in Costa Rica are <i>M. mesoamericana</i> . Collections examined molecularly did not include collections from WV and NC (2)
Lactarius lentus	Species stands	<i>Lactarius lentus</i> Coker	Orange Co., NC and Cuyahoga Co., OH	Known only from Coker's collections.
Lactarius subplinthogalus	Species stands	Lactarius subplinthogalus Coker	NY to TX; MI and IA	Commonly collected. Offspring: Lactarius subplinthogalus var. chiangmaiensis H.T. Le & D. Stubbe, Fungal Diversity 27(1): 78 (2007).
Lactarius subtorminosus	Species stands	Lactarius subtorminosus Coker	Orange Co., NC and Lac Ste. Anne Co.,	Rarely collected.

Distribution of NCU Lactarius s.l. collections



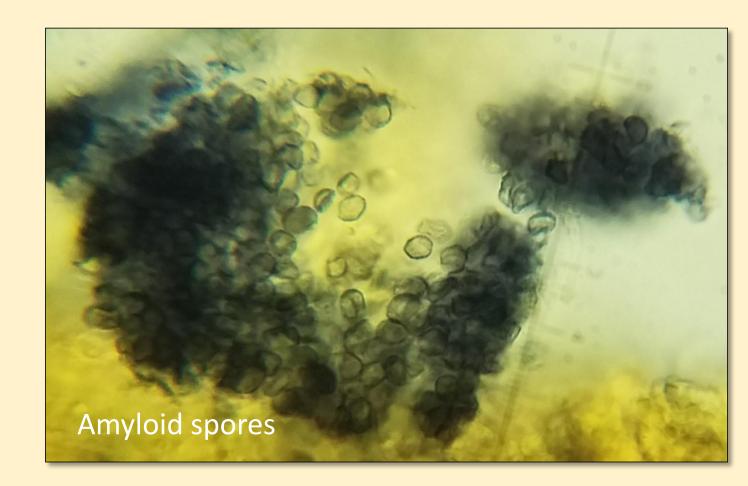
References

- 1. Hesler LR and Smith AH (1979). North American Species of *Lactarius*.
- 2. Wang X-H Halling RE, Hofstetter V, Lebel T and Buyck B (2018). Phylogeny, biogeography and taxonomic reassessment of *Multifurca* (Russulaceae, Russulales) using three-locus data. PLoS ONE **31** (11): e0205840. https://doi.org/10.1371/journal.pone.0205840.

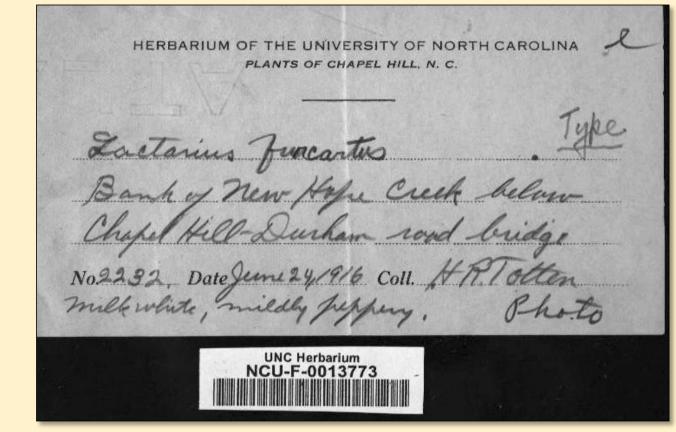
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Rediscovery of *Lactarius furcatus* Coker holotype now *Multifurca furcata* (Coker) Buyck & V. Hofstetter (2008)

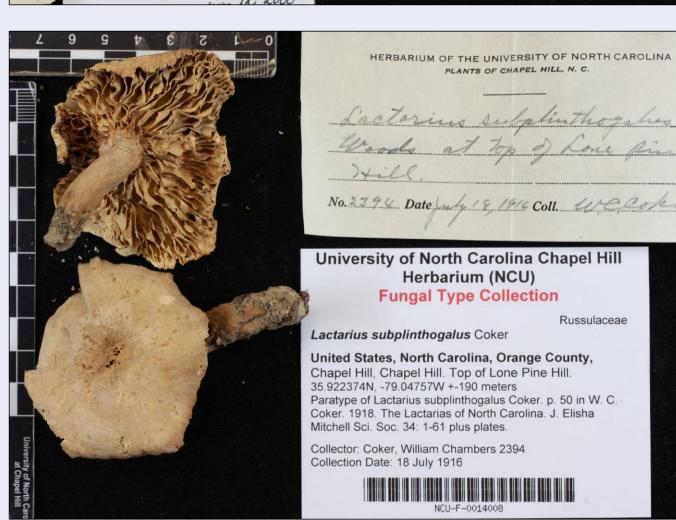
This holotype was examined by Hesler and Smith for their 1979 monograph. Later it was thought missing (3,4). Now relocated at NCU, the holotype is good condition, and an attempt will be made to determine its ITS barcode. This collection was made on 24 June 1916 by Dr. Henry Roland Totten (1892-1974) in Durham County, NC. Totten collected 115 of NCU's *Lactarius* specimens, including 21 type collections.

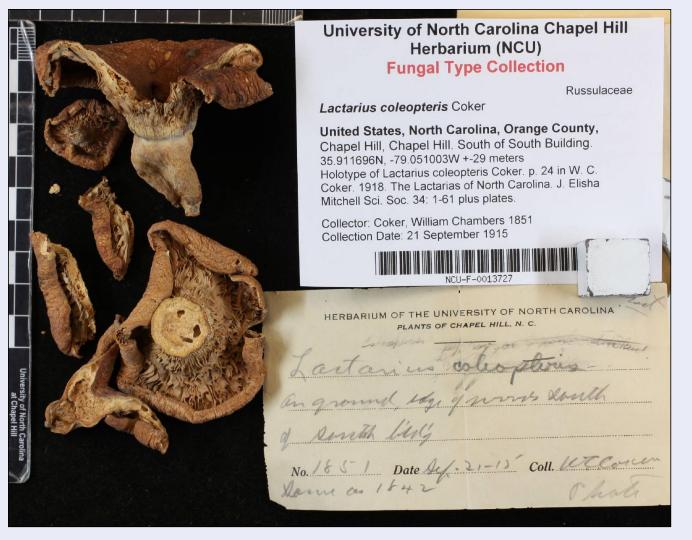






University of North Carolina Chapel Hill Herbarium (NCU) Fungal Type Collection Russulaceae Lactarius allardii Coker United States, North Carolina, Orange County, Chapel Hill, Chapel Hill, Near Meeting of the Waters. 35,89851N - 79,03697W - 1256 meters Currently: Lactifluus allardii (Coker) De Crop. Holotype of Lactarius allardii (Coker) De Crop. Holotype of Lactarius allardii (Coker) Date (Coker). 12 in W. C. Coker. 1918. The Lactarias of North Carolina. J. Elisha Mitchell Sci. Soc. 34: 1-61 plus plates. Collector Totten, H. R. 1670 Collection Date: 28 July 1915 Herbario XAL INSTITUTO DE ECOLOGIA, A.C. No. 7. D. Date July 28, 10 Coll. No. 7. D. Date July 28, 10 Coll. Choto, Choto,







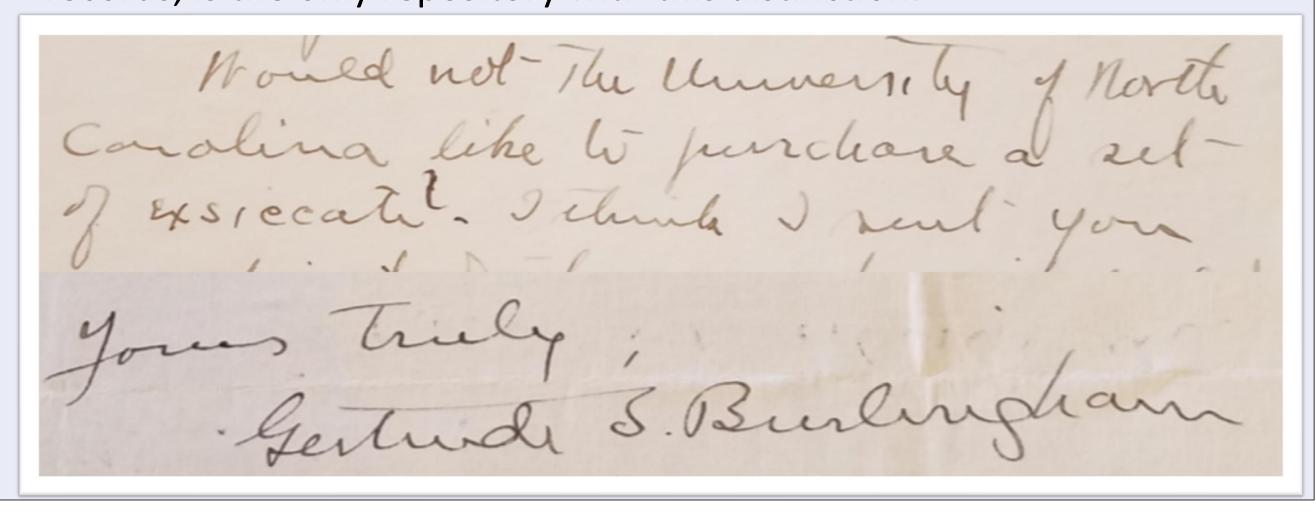
Collected by Dan J. Meyers in type locality, 8 Aug 2018.

One hundred years later, collection of

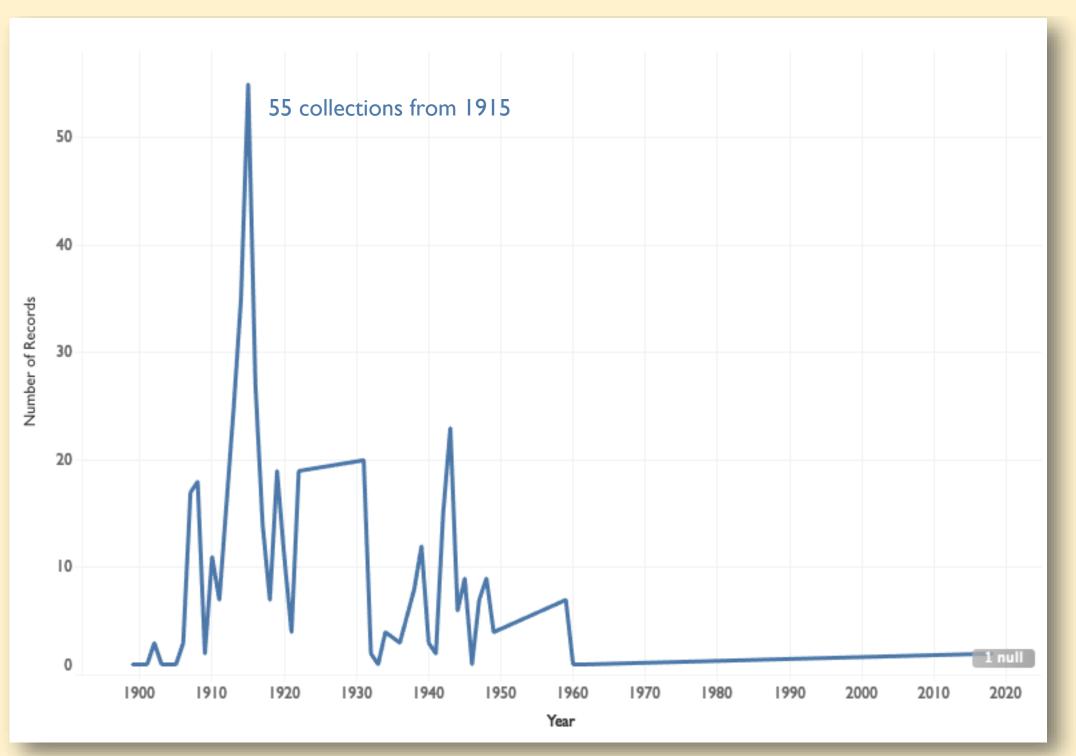
One hundred years later, collection of Lactarius has resumed at NCU, with effort focused on type locations.

Burlingham's exsiccati

Dr. Gertrude Simmons Burlingham (1872-1952) was the United States' foremost authority on Russulaceae during the first half of the twentieth century. Her exsiccati, *The Lactariae of North America, Fascicles I-II,* included 50 species (5), which Coker purchased for \$8 at her suggestion in 1916 (6). As a gift, Burlingham included two additional specimens: *L. delicatus* Burl. and *L. lanuginosus* Burl. collected by her in 1907 in Transylvania County, NC. In the introduction to *Lactarias of North Carolina* (1918), Coker expresses gratitude for Burlingham's "help in determining a considerable number of [his] most puzzling collections" (7). NCU retains Burlingham's full exsiccati, and, based on MyCoPortal records, is the only repository with this distinction.



Timeline of NCU Lactarius s.l. collections



References, continued from far left

- 3. Montoya L, Bandala VM and Halling R (2003). *Lactarius furcatus* in Mexico and Costa Rica. Mycotaxon **87**: 311-316
- 4. Buyck B, Hofstetter V, Eberhardt U, Verbeken A and Kauff F (2008). Walking the thin line between *Russula*
- and *Lactarius*: the dilemma of *Russula* sect. *Ochricompactae*. Fungal Diversity **28**: 15-40.

 5. Burlingham GS (1910). The Lactariae of North America--Fascicles I and II. Mycologia **14**: 27-36.
- 6. Coker WC (27 May 1918). Letter to Gertrude S. Burlingham.
- 7. Coker WC (1918). The Lactarias of North Carolina. Journal of the Elisha Mitchell Scientific Society **34** (1): 1–62